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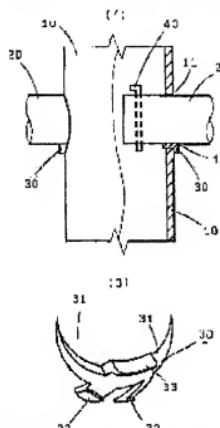
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(54) MOUNTING STRUCTURE OF BEAM PIPE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide mounting structure of a beam pipe capable of easily inserting the beam pipe into a mounting hole of a pipe-like post compactly by a simple device and completely suppressing play or rotation of the beam pipe.

SOLUTION: Mounting structure of this beam pipe is so constituted that the end of the beam pipe 20 is slackly inserted into a mounting hole 11 opened in the side of a pipe-like post by making a space 12, and a wedge-like pipe anchorage device 30 formed in a side-shape 31 capable of closing the greater part of space 12 and having slip stopping projections 32 is driven into the space 12. Specially, the wedge-like pipe anchorage device 30 is constituted of a plastic molded body. The pipe-like post 10 and beam pipe 20 are formed of plastic coated metal pipes having imitation-wooden patterns.



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CLAIMS

[Claim(s)]

[Claim 1] Attachment structure of the beam pipe characterized by driving in the wedge-shaped pipe anchor which the edge of a beam pipe opens a clearance, is loosely inserted in the mounting hole established in the side face of a tubular stanchion, has and escapes from the side-face configuration which may take up most clearances in the clearance, and has a stop projection.

[Claim 2] Attachment structure of a beam pipe according to claim 1 where a wedge-shaped pipe anchor consists of a plastics Plastic solid.

[Claim 3] Attachment structure of a beam pipe according to claim 1 or 2 where a tubular stanchion and a beam pipe consist of a plastic lining metallic conduit which has an imitation trunk pattern.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the attachment structure of the beam pipe used for various kinds of guard fences.

[0002]

[Description of the Prior Art] Generally, the edge of a beam pipe opens a clearance, and is loosely inserted in the mounting hole established in the side face of a tubular stanchion, that clearance is filled up with a caulking material, or tubed part material with a collar is fitted in and this kind of guard fence by which a guard fence is prepared in a general foot walk or the promenade of a park in many cases is constituted.

[0003] A beam pipe is loosely inserted in the mounting hole of a tubular stanchion for doing the insertion activity of a beam pipe easily. Moreover, tubed part material with a collar in filling up in the clearance between a mounting hole and a beam pipe with a caulking material **** is fitted in for suppressing shakiness and rotation of a beam pipe, while hiding a clearance.

[0004]

[Problem(s) to be Solved by the Invention] However, restoration of a caulking material takes skill to what is in the attachment structure of such a conventional beam pipe, and filled up the clearance with the caulking material, and its an activity is troublesome. And an adhesive property with a beam pipe is bad, and because of contraction by the temperature gradient etc., a caulking material may separate and shakiness or rotation of a beam pipe cannot be suppressed completely.

[0005] Moreover, even if inserting smoothly is not easy for the mounting hole of a tubular stanchion and, as for what fitted in tubed part material with a collar, it can insert tubed part material with a collar in it well in a mounting hole, it is difficult to insert a beam pipe in this without a clearance, and it cannot suppress shakiness or rotation of a beam pipe completely. Moreover, tubed part material with a collar is conspicuous too much, and an appearance is not so good, either.

[0006] Especially, although it becomes guard fences, such as a promenade of a park, from the plastic lining metallic conduit which has the good imitation trunk pattern of a scene, a tubular stanchion and a beam pipe are used for them in many cases, but since a front face is not smooth and it consists of a concavo-convex imitation trunk pattern in this case, it is interfered by this irregularity and it becomes very difficult to insert tubed part material and a beam pipe with a collar in the mounting hole of a tubular stanchion.

[0007] This invention can solve the above-mentioned problem, the place made into the purpose can insert a beam pipe in the mounting hole of a tubular stanchion easily without a cheek clearance with an easy means, and it is in offering the attachment structure of a beam pipe where shakiness and rotation of a beam pipe can be suppressed completely.

[0008]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the edge of a beam pipe opened the clearance and was loosely inserted in the mounting hole where the attachment structure of the beam pipe of this invention was prepared in the side face of a tubular stanchion, and it considered as the configuration into which the wedge-shaped pipe anchor which has and escapes from the side-face configuration which may take up most clearances, and has a stop projection is driven in the clearance (invention of claim 1).

[0009] Moreover, in the above-mentioned configuration, it considered as the configuration which a wedge-shaped pipe anchor becomes from a plastics Plastic solid (invention of claim 2).

[0010] Furthermore, in the above-mentioned configuration, it considered as the configuration which a tubular stanchion and a beam pipe become from the plastic lining metallic conduit which has an imitation trunk pattern (invention of claim 3).

[0011]

[Function] According to this invention, while a clearance is only closed by driving a wedge-shaped pipe anchor into the clearance formed between the mounting hole of a tubular stanchion, and a beam pipe in the part of the side-face configuration of a pipe anchor, a beam pipe is fixed, and thereby, shakiness and rotation of a beam pipe are prevented.

[0012] And it is also prevented that a wedge-shaped pipe anchor falls out and a pipe anchor separates by stop projection. In addition, since it is not necessary to fit a wedge-shaped pipe anchor in the perimeter of a beam pipe, an appearance also becomes good, without being conspicuous.

[0013] If the wedge-shaped pipe anchor which consists of a plastics Plastic solid especially is used, in case this is driven into a clearance, elastic deformation is carried out a little, a mounting hole and a beam pipe will be bound tight strongly and shakiness of a beam pipe and prevention of rotation will be prevented better.

[0014] Furthermore, a beam pipe is easily inserted in a gap, without being interfered by the irregularity of an imitation trunk pattern also in case the tubular stanchion and beam pipe which consist of a plastic lining metallic conduit which has an imitation trunk pattern are used.

[0015]

[Embodiment of the Invention] This invention is explained in detail, referring to the example shown in a drawing hereafter. (b) of drawing 1 shows an example of the connection structure of the beam pipe of this invention -- a notching side elevation and (b) are the perspective views showing an example of a wedge-shaped pipe anchor a part.

[0016] In drawing 1, 10 is a tubular stanchion and the mounting hole 11 is formed in the side face of this tubular stanchion 10. And the edge of the beam pipe 20 is loosely inserted in the mounting hole 11 so that a clearance 12 may be formed.

[0017] What galvanization was given, the thing with which plastics was covered, and the painted thing are used for the front face of metallic conduits, such as a metallic conduit [like a steel pipe or an aluminium pipe] whose above-mentioned tubular stanchion 10 and beam pipe 20 are, and this. Especially the thing that consists of a metallic conduit which covered the plastics which has an imitation trunk pattern is suitable for guard fences, such as a promenade of the point of a scene to a park.

[0018] A deer is carried out and the wedge-shaped pipe anchor 30 is driven into the clearance 12 between the mounting hole 11 of the above-mentioned tubular stanchion 10, and the beam pipe 20. As shown in (b) of drawing 1, this wedge-shaped pipe anchor 30 has the side-face configuration 31 which may take up most above-mentioned clearances 12, and it escapes from it

to a point and it has the stop projection 32.

[0019] And it is stopped so that most clearances 12 may be closed by the side-face configuration 31 of this pipe anchor 30 of the driven-in wedge shape, and it may escape and the wedge-shaped pipe anchor 30 may not separate from a clearance 12 by the stop projection 32.

[0020] In addition, the flange 33 is formed in the center section of the side-face configuration 31. Since this flange 33 serves as a face at the time of driving the wedge-shaped pipe anchor 30 into a clearance 12 and the side face of the side-face configuration 31 can be used as a face, the flange 33 does not need to be formed.

[0021] As for the above-mentioned wedge-shaped pipe anchor 30, the thing made from plastics Plastic solid metallurgy groups, such as a polycarbonate, polyethylene, nylon, and ABS plastics, is used. If a plastics Plastic solid is used especially, even if some irregularity is in the configuration of a clearance, by devoting oneself strongly, elastic deformation is carried out a little, a mounting hole and a beam pipe will be bound tight strongly and shakiness of a beam pipe and prevention of rotation will be prevented better.

[0022] In order to acquire the attachment structure of the beam pipe of this invention, first, the tubular stanchion 10 in which the mounting hole 11 was formed is set on the ground, and fixed spacing is set up. And the edge of the beam pipe 20 is loosely inserted in the mounting hole 11 of this tubular stanchion 10 so that a clearance 12 may be formed, the edge of the beam pipe 20 is stopped with a check pin 40, and a cap is further put on the crowning of the tubular stanchion 10.

[0023] Next, the wedge-shaped pipe anchor 30 is driven in, the wedge-shaped pipe anchor 30 falling out in the clearance 12 between the mounting hole 11 of the tubular stanchion 10, and the beam pipe 20, putting the part of the stop projection 32 in it, and striking a flange 12 using a wooden hammer etc., as shown to [drawing 2](#) in a perspective view. Then, the part of the side-face configuration 31 of the wedge-shaped pipe anchor 30 enters a clearance 12, most clearances 12 are taken up, and the edge of the beam pipe 20 is firmly fixed to the mounting hole 11 of the tubular stanchion 10.

[0024] In addition, although only one beam pipe 20 may be attached in the tubular stanchion 10, generally two or more are attached in the upper and lower sides of the tubular stanchion 10. Moreover, although the wedge-shaped pipe anchor 30 generally forms a clearance 12 under the beam pipe 20 and is driven into this clearance 12, it may form a clearance in the upper part of the beam pipe 20, or the side, and may also drive it into this clearance 12.

[0025] Moreover, although the wedge-shaped pipe anchor 30 is generally driven into the clearance 12 between the beam pipes 20 inserted horizontally, it can also be driven into the clearance 12 between the beam pipes 20 which attached and inserted in inclination up and down. In this case, it is desirable to excise and use a little both ends (part which is thin) of the side-face configuration 31 of the wedge-shaped pipe anchor 30.

[0026]

[Effect of the Invention] According to the attachment structure of the beam pipe of this invention an above-mentioned passage, a beam pipe can be inserted in a container without a cheek clearance with an easy means in the mounting hole of a tubular stanchion, and shakiness and rotation of a beam pipe can be suppressed completely, and an appearance is also good.

[0027] Although especially the attachment structure of the beam pipe of this invention consists of a plastic lining metallic conduit which has an imitation trunk pattern, if it is applied to the guard fence as which scenes, such as a promenade of the park using a tubular stanchion, are required, it is effective.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] (b) shows an example of the attachment structure of the beam pipe of this invention -- a notching side elevation and (b) are the perspective views showing an example of the wedge-shaped pipe anchor used for (b) a part.

[Drawing 2] a part of ** explaining the procedure of acquiring the attachment structure of the beam pipe of this invention -- it is a notching perspective view.

[Description of Notations]

- 10 Tubular Stanchion
- 11 Mounting Hole
- 12 Clearance
- 20 Beam Pipe
- 30 Wedge-shaped Pipe Anchor
- 31 Side-Face Configuration
- 32 Escape and it is Stop Projection.
- 40 Check Pin

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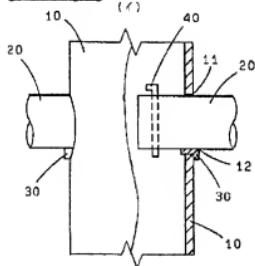
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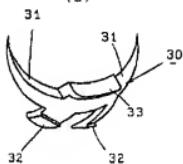
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DRAWINGS

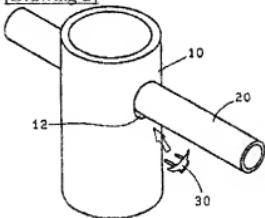
[Drawing 1]



(a)



[Drawing 2]



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